

Associate in Applied Science

Electronics Engineering Technology

(A40200)

For more information:

Program Chair: 704.330.6479 or ET Division: 704.330.6860



Overview

The Electronics Engineering Technology curriculum prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, instrumentation systems, communication systems, and power electronic systems.



A broad-based core of courses, including basic electricity, solid-state fundamentals, digital concepts, and microprocessors, ensures the student will develop the skills necessary to perform entry-level tasks. Emphasis is placed on developing the student ability to analyze and troubleshoot electronic systems.

In the second year, students have the option to choose one of two tracks: Instrumentation & Control or Communications. The tracks are designed to guide students to curriculum paths that cover the appropriate knowledge and skills.

INSTRUMENTATION & CONTROL

This track focuses on the knowledge and skills associated with the installation, maintenance, integration and troubleshooting of instrumentation and control systems. Coursework includes setup and maintenance of instrumentation devices, P&IDs, PLCs, PACs, networking, Visual Basic programming, HMIs, DCS configuration, process control loop tuning and data acquisition using LabView.

COMMUNICATIONS

This track focuses on the knowledge and skills associated with microprocessors, communication systems, networking, C++ programming, laser and fiber optics, system troubleshooting, and data acquisition using LabView.

The AAS degree in Electronics Engineering Technology is accepted at some colleges and universities as the first two years of a 2+2 bachelor's-level engineering technology program. These students are advised to complete a second Physics class (PHY132 or PHY152) to ensure they are not considered deficient with credit hours in Physics.

Graduates should qualify for employment as engineering assistants or electronic technicians with job titles such as electronics engineering technician, field service technician, maintenance technician, communications technician, electronic tester, electronic systems integrator, electronics and instrumentation technician, control technician, bench technician, and production control technician.

Degree Awarded

The Associate in Applied Science Degree - Electronics Engineering Technology is awarded by the College upon completion of any of the above program tracks.

Note

Students in Electronics Engineering Technology (A40200) program desiring to earn an additional degree in Computer Engineering Technology (A40160) or Electrical Engineering Technology (A40180) or an additional track under Electronics Engineering Technology must meet the specified course requirements.

For additional information, visit www.cpcc.edu/et or call the Program Chair at 704.330.6479.

Admissions

- A high school diploma or equivalent is required. High school students preparing for an Engineering Technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy and science.
- CPCC placement tests are required in English and mathematics. Advancement Studies mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.
- Many courses have prerequisites or corequisites; check the Course Descriptions section for details.

CURRICULUM (First Year—All Tracks)
(Effective Spring 2010)

First Semester-Fall		Lecture	Lab	Credit
COM110	Intro. to Communications	3	0	3
ELC 138	DC Circuit Analysis	2	3	3
ELN 150		CAD for Electronics		2
ENG 111	Expository Writing	3	0	3
MAT 121	Algebra/Trigonometry I	2	2	3
				14
Second Semester-Spring				
ELN 133E	Digital Electronics	3	3	4
ELN 137	Electronic Devices & Circuits	4	3	5
ELC 139	AC Circuit Analysis	2	3	3
ENG 114	Professional Research and Reporting	3	0	3
MAT 122	Algebra/Trigonometry II	2	2	3
				18
Third Semester-Summer				
Behavioral/Social Science Elective		3	0	3
Humanities/Fine Arts Elective		3	0	3
				6
First Three Semesters Total Credits				38

See back for information on second-year curriculum for:
Instrumentation and Control Track
Communications Track

Engineering Technologies
Change your direction!

FIRST STEP TO ENROLL:

Call CPCC Counseling at 704.330.5013

Consult a faculty advisor or College counselor prior to registration.

CPCC is an Equal Opportunity Institution.

CURRICULUM (Second Year)**Instrumentation and Control Track**

Fourth Semester-Fall			Lecture	Lab	Credit
CSC	139	Visual BASIC Programming	2	3	3
ELC	213	Instrumentation	3	2	4
ELN	237	LAN (Ethernet, includes wireless)	2	3	3
ELN	260	Programmable Logic Controllers	3	3	4
PHY	131	Physics (Mechanics)	3	2	4
OR					
PHY	151	College Physics I	3	2	<u>4</u>
					18
Fifth Semester-Spring					
MAT	223	Applied Calculus	2	2	3
PCI	162	Instrumentation Controls (DCS, Process Control, PID)	2	3	3
PCI	170	DAQ & Control (LabView)	3	3	4
PCI	172	SCADA Systems (HMI)	3	3	4
PCI	173	Programmable Systems (Adv. PLCs, PACs, network-based, HMI)	3	3	4
					-
					18
TOTAL CREDITS					74

CURRICULUM (Second Year)**Communications Track**

Fourth Semester-Fall			Lecture	Lab	Credit
ELN	232	Intro. to Microprocessors	3	3	4
ELN	236	Fiber Optics & Lasers	3	2	4
ELN	237	LAN (Ethernet, includes wireless)	2	3	3
PHY	131	Physics (Mechanics)	3	2	4
OR					
PHY	151	College Physics I	3	2	<u>4</u>
					15
Fifth Semester-Spring					
CSC	134	C++ Programming	2	3	3
ELN	234	Communication Systems	3	3	4
ELN	275	Troubleshooting	1	2	2
MAT	223	Applied Calculus	2	2	3
PCI	170	DAQ & Control (LabView)	3	3	<u>4</u>
					16
TOTAL CREDITS					69



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ELECTRONICS ENGINEERING TECHNOLOGY

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